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U. S. NAVAL HOSPITAL  
Mare Island, Vallejo, California

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1 November 1949

From: Officer in Charge, Artificial Limb Department  
To: Medical Officer in Command

Subj: Monthly report on the experimental work of the Artificial Limb  
Department *Oct*

Ref: (a) Advisory Committee on Artificial Limbs ltr of 21 Jun 1948  
(b) Research Division ltr of 24 Jun 1949, BUMED CODE 71/DJD:gh

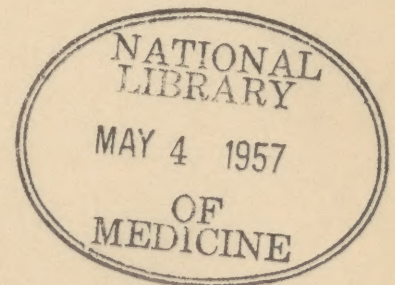
1. Monthly report required by references (a) and (b) is hereby submitted.
2. The following staff members and patients attended the meeting of the Advisory Committee on Artificial Limbs, National Research Council held at Washington, D. C., October 17th to 20th:

Staff

Commander T. J. Canty, MC, USN  
Mr. Charles C. Asbelle  
Mr. Wilbur C. Oliver

Patients

Lt. (jg) Sarah H. Griffin, NC, USNR  
Ens. O. C. Johnson, USN



3. The following projects are under production, experimentation and further study: (NM 007 084)

(a) Lower Extremities Section:

I. Foot and ankle (NM 007 084.30)

The laminated rubber blocks for the ankle joint are being manufactured in the Naval Shipyard. These will be tested as soon as they become available. The ankle joint has been modified by utilizing an aluminum cup in the foot section to hold the rubber block, thereby allowing greater space for the sponge rubber fairing. This unit is now in the process of testing, and curves are being plotted. It is felt that this modification is desirable in order to improve the fairing, which in the past has had a tendency to break down on cases that use extreme angles of plantar and dorsi flexion. Upon receipt of the sizes and measurements from the University of New York, the foot and ankle units will be constructed for service testing at the University of New York.

II. Shank (NM 007 084.10)

The molds for the new cosmetic shaped plastic shins are still in the process of manufacture at the Naval Shipyard, and it is expected to receive these in the near future.



### III. Knee

#### (a) Mechanical (NM 007 084.32)

The variable cadence knee joint is being installed in artificial limbs for additional amputee cases. A testing device is being constructed for accelerating the testing of the variable cadence knee joint. Upon receipt of the sizes and measurements from the University of New York, the variable cadence knee joint units will be constructed for service testing at the University of New York.

#### (b) Hydraulic (NM 007 084.33)

Additional disarticulation cases are being fitted with the hydraulic unit.

### IV. Cosmetic problem (NM 007 084.20)

The cosmetic covering has been utilized on an above knee prosthesis for a female amputee.

### V. Brief summary of status of models as a unit

#### (A) Suction socket (NM 007 084.24)

One case wearing a plastic flexible liner as a substitute for leather had to discontinue its use because the plastic caused irritation to the skin.

#### (b) Upper Extremities Section:

##### I. Above elbow arm (NM 007 084.17)

It is contemplated to fit an amputee with the elbow lock that was demonstrated at the Washington meeting.

##### II. Hands, hooks and tools (NM 007 084.18)

Two amputees have been fitted with the Robinson hand incorporating the hand lock that was demonstrated at the Washington meeting.

##### III. Cosmetic problem

No work has been done on the cosmetic problem of the arm this month.

##### IV. Harness and/or other outside control (NM 007 084.21)

No additional work has been done on the harness this month.

##### V. Brief summary of status of models as a unit.

(a) Cineplastic prosthesis (NM 007 084.26)

Both the bilateral, above elbow amputee with the pectoralis motors, and the below elbow amputee with the biceps motor, are wearing and utilizing their prostheses.

(b) Northrop Simplex below elbow arm

One unit has been received and fitted to a below elbow amputee who works in the Naval Shipyard. This patient refuses to wear the prosthesis because of the following objections:

- (1) Discomfort of the socket
- (2) Cosmetic shape (the large forearm shell)
- (3) He is able to achieve better function from the prosthetic device that he has already been fitted with.

(c) APRL Hook

One of the cases wearing the APRL hook has returned the hook because of malfunction, and the necessary report and the hook have been forwarded to the University of New York. This is the second malfunction of the hook that has occurred in this case. This patient is enthusiastic about the function of the hook, but is becoming discouraged due to the malfunctions that occurred.

T. J. CANTY